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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/802,772

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EXAMINER

DUONG, TAI V

ART UNIT

PAPER NUMBER

2871

MAIL DATE

DELIVERY MODE

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/802,772

Applicant(s)

KIM ET AL.

Examiner

Tai Duong

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 June 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-44 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 7-26 and 29-44 is/are rejected.
- 7) ☒ Claim(s) 5, 6, 27 and 28 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 4, 23 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 2003-035893 (JP'893) in view of Mai (US 7,102,162).

The only difference between the dual LCD device of JP'893 and that of the instant claims is the first and second front light units each have second sides opposite to the first sides having prismatic configurations. See discussions of the dual LCD device of JP'893 in the last Office action. Mai discloses in Fig. 10 that it was known to employ in a dual LCD device first and second front light units (10-1, 10-2, 12-1, 12-2) each have second sides opposite to the first sides having prismatic configurations (col. 8, lines 4-28). Thus, it would have been obvious to a person of ordinary skill in the art in view of Mai to employ in the dual LCD device of JP'893 first and second front light units each have second sides opposite to the first sides having prismatic configurations for effectively reflecting light from the light sources toward the liquid crystal panel thereby enhancing the brightness of the LCD device.

Claims 2, 3, 7-16, 24, 25 and 29-38 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 2003-035893 (JP'893) and Mai (US 7,102,162) as applied to claims 1, 4, 23 and 26 above, and further in view of Smith et al (US 6,574,487) and Kaneko (US 2002/0176036).

The only differences between the dual LCD device cited in the above rejection of claims 1, 4, 23 and 26 and that of the instant claims are the LC panel being formed in a mode selected from the group consisting of TN mode, IPS mode, and VA mode, optical axes of the polarizers being perpendicular, a fine reflecting and scattering film is prepared between the first or second polarizing plate and the first or second front light unit and prevents Moiré phenomenon from occurring when an image is displayed on the rear or front side of the liquid crystal panel due to a light emitted from the first or second front light unit. Smith et al disclose that it was common to employ mode selected from the group consisting of TN mode, IPS mode, and VA mode, and optical axes of the polarizers being perpendicular (col. 3, lines 12-26). Kaneko discloses in Fig. 3 that it was known to employ a reflecting and scattering film (reflection polarizer 10 and scattering layer 19) between a polarizing plate 12 and a light unit (7, 8, 14) for obtaining a brighter display while preventing Moiré (paragraphs 0097-0099). Thus, it would have been obvious to a person of ordinary skill in the art in view of Smith et al to employ the LC panel being formed in a mode selected from the group consisting of TN mode, IPS mode, and VA mode, and optical axes of the polarizers being perpendicular in the dual LCD device cited in the above rejection of claims 1, 4, 23 and 26 because these modes and the perpendicular configuration of the polarizers are common in the art. Also, it would have been obvious to a person of ordinary skill in the art in view of Kaneko to employ in the dual LCD device cited in the above rejection of claims 1, 4, 23 and 26 a reflecting and scattering film between the polarizing plate and the light unit for obtaining a brighter display while preventing Moiré.

Claims 17-22 and 39-44 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 2003-035893 (JP'893) and Mai (US 7,102,162) as applied to claims 1, 4, 23 and 26 above, and further in view of Smith et al (US 6,574,487) and Kaneko (US 2002/0176036).

The only differences between the dual LCD device cited in the above rejection of claims 1, 4, 23 and 26 and that of the instant claims are a scattering film is prepared between the first or second polarizing plate and the first or second front light unit and prevents Moiré phenomenon from occurring when an image is displayed on the rear or front side of the liquid crystal panel due to a light emitted from the first or second front light unit. Kaneko discloses in Fig. 1 that it was known to employ a scattering film 9 between a polarizing plate 12 and a light unit (7, 8, 14) for scattering incident light while preventing Moiré (Abstract, paragraph 0099). Thus, it would have been obvious to a person of ordinary skill in the art in view of Kaneko to employ in the dual LCD device cited in the above rejection of claims 1, 4, 23 and 26 a scattering film between the polarizing plate and the light unit for scattering incident light while preventing Moiré.

Response to Applicant's Remarks

With respect to Applicant's remarks regarding Smith et al (US 6,574,487), from the description of the liquid crystal panel in column 3, lines 12-26 of Smith et al, the examiner asserted on page 5 of the Office actions mailed 3/23/06 and 9/22/06 that the liquid crystal panel of Smith et al is a TN normally white mode. However, Applicant did *not* argue in both Responses filed 6/13/06 and 12/07/06 that the liquid crystal panel of Smith et al is *not* a TN normally white mode. For that reason, the examiner has

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maintained the assertion that the liquid crystal panel of Smith et al is the TN mode in the 103 rejection of the Office action mailed 3/9/07. It is noted that Smith et al do disclose that their liquid crystal panel including polarizers having perpendicular optical axes is known in the art (col. 2, lines 58-67).

US 6,724,358 (col. 12, lines 23-36), US 6,482,479 (col. 1, line 66 - col. 2, line 8) and US 5,998,101 (col. 1, lines 26-43) are cited to support for the examiner's assertion or official notice that TN, IPS and VA modes are well known.

Applicant's arguments with respect to claims 1, 7, 17, 23, 29 and 39 have been considered but are moot in view of the new ground(s) of rejection.

Claims 5, 6, 27 and 28 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 5 and 27 are allowed over the prior art of record because none of the prior art discloses or suggests a dual LCD device having a structure as recited in claim 1 or 23 in combination with the feature "wherein the liquid crystal panel functions in a TN mode, such that the first front light unit is in an ON state and an image displayed on the rear side of the liquid crystal panel is in a black mode, and such that the first front light unit is in an OFF state and an image displayed on the rear side of the liquid crystal panel is in a white mode".

Claims 6 and 28 are allowed over the prior art of record because none of the prior art discloses or suggests a dual LCD device having a structure as recited in claim 1 or 23 in combination with the feature "wherein the liquid crystal panel functions in a

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TN mode, such that the second front light unit is in an ON state and an image displayed on the front side of the liquid crystal panel is in a black mode, and the second front light unit is in an OFF state and an image displayed on the front side of the liquid crystal panel is in a white mode".

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tai Duong whose telephone number is (571) 272-2291.

The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

TOAN TON
PRIMARY PATENT EXAMINER

TVD
09/07